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June 7, 1995

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Re: Ex Parte Filing - CC Docket No. 92-297
The FCC Should Require All Authorized
Uses of the 28 GHz Band To Be Digital

Dear Mr. Caton:

Teledesic Corporation ("Teledesic") by its attorneys, submits this ex parte presentation to assist the Federal Communications Commission ("FCC" or "Commission") in its deliberations in CC Docket No. 92-297[1]. Teledesic believes that all authorized uses of the 27.5 - 29.5 GHz frequency band ("28 GHz band") should be mandated by service rules to be digital. Use of digital technology promotes the development and deployment of robust, spectrum-efficient communications services. With current and future demands in the limited spectrum resources in this band, such a requirement will ensure the most spectrally-efficient use of the band and allow all authorized uses of the 28 GHz band to be deployed and developed fully.

A. THE PUBLIC INTEREST MANDATES THAT ALL AUTHORIZED USES IN THE 28 GHz BAND BE DIGITAL ONLY

In order to ensure that communications technologies and services meet the demands of the twenty-first century, the FCC should continue to promote the use of digital technologies. Digital systems offer tremendous advantages over analog systems, including the greater

[1] Pursuant to Section 1.1206(a)(1) of the Commission's Rules, an original and one copy of this letter are enclosed. A copy of this letter is also being provided to the FCC staff indicated in the attached certificate of service.

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potential to provide interactive services and the capacity to support a wide range of applications, less costly and complex interdiction, and the increased ability to expand as demand for capacity increases. Quite simply, digital technology "has unleashed a new world of communications opportunities." FCC News Release, FCC Commissioner Susan Ness Addresses Indiana Broadcasters Association Convention, at 1 (Apr. 27, 1995) quoting Commissioner Susan Ness ("Indiana Broadcasters Speech"). Permitting analog systems to be deployed in this frequency band would be contrary to the public interest because it would promote the use of archaic, spectrally-inefficient technology.

In a recent address to the Electronic Industries Association, Chairman Hundt recognized the importance of digital technology to the evolution of the information superhighway:

> There are five separate lanes of information highway today: satellite, cable, wireless, wired and broadcast. Each of these lanes is being repaved right now. In their new form each lane will carry more and different traffic.
>
> By repaving I mean each lane of the information highway is being converted from analog to digital signals. I suspect that everyone in this audience knows far better than I that digital is the Morse code of the twenty-first century.
>
> When each lane of the information highway converts to digital signals it can be used to deliver almost any combination of voice, video and data. That gives us the opportunity to encourage competition among all the proprietors of these previously separate industries. Hundt, Speech to Electronic Industries Association, (Jan. 6, 1995)

Requiring all uses deployed in the 28 GHz band to employ a digital architecture is necessary to achieve Chairman Hundt's vision for the information superhighway. There is no reason to delay the introduction of digital technology in the 28 GHz band. First, digital technology is available now on an economic basis for all uses currently authorized in or proposed for the 28 GHz band. By requiring the use of digital technology from the outset, there will be no need to convert from archaic, analog systems at a later date. Second, there are no permanent local multipoint distribution service ("LMDS") or satellite uses currently authorized in the 28 GHz band. Therefore, mandating the use of digital technologies in the 28 GHz band would not require the FCC to adopt transition rules or grandfather the use of analog technologies.

Requiring all uses of the 28 GHz band to be deployed employing digital technology also will ensure that spectrum in the 28 GHz band is used most efficiently. Digital technology allows more robust communications services to operate in less spectrum than analog versions

of the same technologies. For example, digital systems are three times more spectrally efficient than analog LMDS systems. Using 850 MHz of spectrum, for example, 125 video channels of programming can be provided by a digital LMDS system as compared to 42 video channels for an analog LMDS system. Put another way, less than 285 MHz of spectrum is required for a digital LMDS system to provide the same capacity as an analog LMDS system.

B. REQUIRING SOLELY DIGITAL USES IN THE 28 GHz BAND IS CONSISTENT WITH PAST FCC ACTION

Requiring that only digital uses be allowed in the 28 GHz band is within the FCC's statutory authority and is fully consistent with past Commission actions in similar circumstances.[2] The Commission has repeatedly recognized that the conversion from analog to digital is taking place and serves the public interest. Based on its statutory authority, the FCC has taken action authorizing new services that employ digital, rather than analog, technologies. This has happened in the area of new services such as direct broadcast satellite, digital audio radio, personal communications services and high-definition television, where the technical standards adopted by the FCC encompass digital services. See e.g., 47 C.F.R. Part 100; Amendment of the Commission's Rules with Regard to the Establishment and Regulation of New Digital Audio Radio Services, Gen Docket No. 90-357 (released Jan. 18, 1995).

Moreover, the FCC has not limited its support of digital systems to new services. The Commission has adopted rules or policies that require or strongly encourage existing services to adopt digital technologies. An example includes the cellular radiotelephone service. While not mandating digital systems, the FCC adopted rules that encouraged the next generation of cellular services to be digital. See Liberalization of Technology and Auxiliary Service Offerings in Domestic Public Cellular Radio Services, 3 FCC Rcd 7033 (1988); Liberalization of Technology and Auxiliary Service Offerings in Domestic Public Cellular Radio Services, 5 FCC Rcd 1138 (1990).

The FCC should take actions in this area to mandate that any uses authorized in the 28 GHz band employ digital technology. See e.g., Indiana Broadcasters Speech, at 1, quoting Commissioner Susan Ness (the Commission will be working "to establish a workable path for permitting existing licensees to move from analog to digital television."). Requiring the deployment of digital systems in the 28 GHz band is a logical step for the Commission to take

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[2] Pursuant to Section 151, 154(1), 201- 205 and 214 of the Communications Act, 47 U.S.C. §§ 151, 154(1), 201-205 and 214, the FCC has the statutory authority to mandate the use of digital technology. See Provision for Access for 800 Service, 6 FCC Rcd 5421, 5427 (1991)

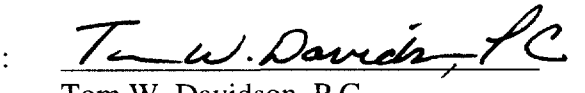
because it will ensure the provision to consumers of efficient services. In addition, such action is essential to ensure that there is sufficient spectrum available in the 28 GHz for the deployment and full utilization of all services authorized and proposed in this band.

C. CONCLUSION

"To get to the sunny uplands of digital communication quickly, cheaply, and competitively, the private and public sectors should identify and address conversion issues as soon as possible." Hundt, Speech to the National Cable Television Association, (May 9, 1995). CC Docket No. 92-297 provides the FCC and American industry with this opportunity; the public interest requires the FCC to mandate that only digital systems be deployed in any portion of the 28 GHz band. Requiring the deployment of digital systems is consistent with the Commission's objective for America of maintaining "its world lead in communications as we move to the digital age," while permitting the deployment of all authorized services in the 28 GHz band. Id. Hence, requiring the deployment of digital systems in the 28 GHz band will promote efficient investment in the national and global telecommunications infrastructure and foster the availability to the American public of new and diverse spectrum efficient services.

Respectfully submitted,

TELEDESIC CORPORATION

By: 

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June 7, 1995

CERTIFICATE OF SERVICE

I, Dayle L. Jones, an employee of Akin, Gump, Strauss, Hauer & Feld, L.L.P., certify that copies of the foregoing Ex Parte Filing were sent via Hand Delivery on this 7th day of June, 1995, to the following parties:

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